

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:
MICHAEL J. MALLIE
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP
12400 WILSHIRE BLVD.
7TH FLOOR
LOS ANGELES, CA 90025

PCT

WRITTEN OPINION

(PCT Rule 66)

Applicant's or agent's file reference P11864PCT		Date of Mailing (day/month/year) 27 AUG 2003
International application No. PCT/US02/17316		REPLY DUE within 2 months/days from the above date of mailing
International filing date (day/month/year) 31 May 2002 (31.05.2002)	Priority date (day/month/year) 15 June 2001 (15.06.2001)	
International Patent Classification (IPC) or both national classification and IPC IPC(7): H04N 7/173, 7/16; H04H 9/00 and US Cl.: 725/1-8, 9-30, 62, 135, 136, 137-153		
Applicant INTEL CORPORATION		

1. This written opinion is the first (first, etc.) drawn by this International Preliminary Examining Authority.
2. This opinion contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2 (a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☒ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application
3. The applicant is hereby invited to reply to this opinion.

When? See the time limit indicated above. ~~The applicant may, before the expiration of that time limit, request this Authority to grant an extension. See rule 66.2(d).~~

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also For an additional opportunity to submit amendments, see Rule 66.4.
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis.
For an informal communication with the examiner, see Rule 66.6

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.
4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 30 September 2004 (30.09.2004).

Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703)305-3230	Authorized officer Andrew I. Faile Telephone No. (703) 305-4700
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WRITTEN OPINION

International application No.

PCT/US02/17316

I. Basis of the opinion

1. With regard to the elements of the international application:*

- ☒ the international application as originally filed
- ☒ the description:
 pages 1-55, as originally filed
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____.
- ☒ the claims:
 pages 56-71, as originally filed
 pages NONE, as amended (together with any statement) under Article 19
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____.
- ☒ the drawings:
 pages 1-21, as originally filed
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____.
- ☐ the sequence listing part of the description:
 pages NONE, as originally filed
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____.

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item. These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the written opinion was drawn on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages NONE
- ☐ the claims, Nos. NONE
- ☐ the drawings, sheets/fig NONE

5. ☐ This opinion has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed."

WRITTEN OPINION

International application No.
PCT/US02/17316

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. STATEMENT

Novelty (N)	Claims <u>1-56</u>	YES
	Claims <u>NONE</u>	NO
Inventive Step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-56</u>	NO
Industrial Applicability (IA)	Claims <u>1-56</u>	YES
	Claims <u>NONE</u>	NO

2. CITATIONS AND EXPLANATIONS

Please See Continuation Sheet

WRITTEN OPINION

International application No.

PCT/US02/17316

VI. Certain document cited

1. Certain published documents (Rule 70.10)

Application No <u>Patent No.</u>	Publication Date <u>(day/month/year)</u>	Filing Date <u>(day/month/year)</u>	Priority Date (valid claim) <u>(day/month/year)</u>
US 6,349,321 B1	19 February 2002 (19.02.2002)	29 April 1998 (29.04.1998)	30 April 1997 (30.04.1997)

2. Non-written disclosures (Rule 70.9)

<u>Kind of non-written disclosure</u>	Date of non-written disclosure <u>(day/month/year)</u>	Date of written disclosure referring to non-written disclosure <u>(day/month/year)</u>
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Supplemental Box

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TIME LIMIT:

The time limit set for response to a Written Opinion may not be extended. 37 CFR 1.484(d). Any response received after the expiration of the time limit set in the Written Opinion will not be considered in preparing the International Preliminary Examination Report.

V. 2. Citations and Explanations:

Claims 1-3, 20, 26, 27, 35, 36, 44, 45, 53, and 55 lacks an inventive step under PCT Article 33(3) as being obvious over Wu (WO 01/15451 A1) in view of Rao (US Patent # 5,940,738).

Regarding claim 1, Wu discloses a list and/or grid (meta data) of future programs could be shown to the user (page 9, lines 2-5). Wu discloses a list and/or grid (meta data) of available segments is presented (page 10, lines 7-11); Wu discloses the broadcast segments have time and identifiers associated with it that causes the set top box to record the program segment when it is scheduled (page 10, line 29-page 11, line 6), which meets the limitation on meta-data to clients that include the description of pieces of content that are considered for upcoming broadcasts.

Wu discloses the user makes selection for the desired stream (page 10, lines 18-28), which meets the limitation on receiving individual sets of client demand feedback from clients comprising data indicating a client interest level in pieces of content.

Wu discloses the users make demands for programs (page 12, lines 7-18). Wu discloses the requests are ranked based on demand and the ranking shows the most popular show first (page 12, lines 19-32), which meets the limitation on maintaining a broadcast schedule queue comprising an ordered list of pieces of content that indicates interest derived from client feedback.

Wu discloses the shortest segment finishes before the longer segments (page 13, lines 5-8). Wu discloses the lack of bandwidth would send a message to the set top box the request could not be accommodated (page 13, lines 11-13). Wu discloses that the segments are scheduled by bandwidth requirements and accommodate shorter requests before longer requests (page 13, lines 29-31), which meets the limitation on selecting a batch of content comprising one or more pieces of content from the top portion of the broadcast schedule queue to be broadcast during the next available bandwidth.

Wu fails to disclose the meta-data is broadcasted. Rao discloses the digital broadcast has program data and electronic program guide data (column 9, lines 40-58, abstract); Rao discloses the program guide is used by the user to select programs (column 15, line 62-column 16, line 8), which meets the limitation on broadcasting meta-data.

Regarding claim 2, Wu discloses after the highest ranking segments are shown first and they finish, the next highest ranking segments are shown and so on (page 13, lines 1-4), which meets the limitation on a new batch of content is broadcast during sequential broadcast schedule windows.

Regarding claim 3, Wu discloses after the highest-ranking segments are shown first and they finish, the next highest-ranking segments are shown and so on (page 13, lines 1-4). Wu discloses the requests are held for a period of time then the requested are ranked based on demand; after the period of time for holding and the deployment of the streams new requests will be received (page 12, lines 12-32), which meets the limitation on the piece of content cannot be selected again for a subsequent broadcast until the new requests corresponding to the content are received.

Regarding claim 20, Wu discloses the schedule is provided to the set top box for recording purposes (page 13, lines 9-10), which meets the limitation on broadcasting a broadcast schedule prior to broadcasting the batch of content that is selected to be broadcast during the next broadcast schedule window.

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stream. Rao discloses the user selects a channel for viewing from the EPG and the appropriate information regarding the selected channel such as stream ID, rate, PID list, etc. (ratings data) is signaled (provided) from the subscriber unit to access the VP to enable the tuning of the filters and route the programs to the user (column 15, line 62-column 16, line 8); the program guide necessitates the name of the program (attribute) and the start time (attribute value) of the program.

Regarding claim 13, Wu discloses the requests for segments are received and the requests are ranked based on demand (page 12, line 7-page 13, line 4), which meets the limitation on ranking data pertaining to relative levels of interest in at least two pieces of content and the broadcast schedule queue is determined by aggregating the rankings data.

Neither Wu nor Rao discloses the client feedback data comprising ratings data. Hendricks discloses the market research component receives and analyzes program ratings and the like to assist the scheduler to formulate a program lineup (column 10, lines 42-52); the combination of user demand and the ratings read on client demand feedback. Hendricks discloses the networks analyze the ratings for the television shows and determines an appropriate schedule or program lineup to gain market share (column 2, lines 30-37).

Regarding claim 17, Wu discloses the paid on demand segments could be provided in favor of free on demand segments to maximize revenue but not the further comprising (which is the same embodiment). Hendricks discloses the viewer requests and the ratings determine the program lineup that plays the programs that will be shown to the viewer including advertisements selected (column 10, lines 42-55). Hendricks discloses the program lineup is determined to gain market share revenues (column 2, lines 30-37).

Regarding claim 21, Wu discloses the data can be sent and received over data channel (page 5, lines 23-26), which meets the limitation on client feedback. Wu discloses the multimedia content may be transmitted with more than one stream for different regions and the set top box selects the appropriate portion of the segments (page 14, lines 15-28), which meets the limitation on client systems segmented so that each client system is a member of a segment among multiple segments.

Neither Wu nor Rao discloses the client feedback data includes data identifying the segment the client system is a member of. Hendricks discloses the user demands and the ratings of the program are sent back to the CAP in the operations center 202 and the ad inserter determines what ads located locally will be inserted into the lineup (column 10, lines 39-67), which meets the limitation on client feedback data identifying the segment the client system is a member of and pieces of content are selected to be broadcast.

Regarding claim 22, Wu discloses the set top box has the zip code that is used to select appropriate regional broadcast (page 14, lines 23-28), which meets the limitation on segmented based on geography and each client is assigned to a geographical region.

Regarding claim 23, Wu discloses the set top box has the zip code that is used to select appropriate regional broadcast (page 14, lines 23-28).

Neither Wu nor Rao discloses segmenting based on a network. Hendricks discloses the scheduler creates a program lineup and determines which programs will be made available to what site and viewers (column 10, lines 42-48), which meets the limitation on segmenting based on a network by which each client receives broadcast content.

Regarding claims 24-25, Wu discloses many modifications and equivalent arrangements will be apparent (page 15, lines 15-18).

Neither Wu nor Rao discloses a store and forward multistage broadcast network. Hendricks discloses the operations center 202 transmits programs to the cable headend or remote site 208, which transmits programming to the set top terminal 220 (column 9, lines 13-38). Hendricks discloses the cable headends may store program for later distribution (column 9, lines 39-48), which meets the limitation on broadcasting the batch of content using a multi-stage broadcast network that uses a store and forward mechanism.

Regarding claim 29, the limitations in claim 29 have been met in claim 6 lack of inventive step.

Regarding claim 31, the limitations in claim 31 have been met in claim 12 lack of inventive step.

Regarding claim 32, the limitations in claim 32 have been met in claim 13 lack of inventive step.

Regarding claim 38, the limitations in claim 38 have been met in claim 6 lack of inventive step.

Regarding claim 40, the limitations in claim 40 have been met in claim 12 lack of inventive step.

Regarding claim 41, the limitations in claim 41 have been met in claim 13 lack of inventive step.

Regarding claim 47, the limitations in claim 47 have been met in claim 6 lack of inventive step.

Regarding claim 49, the limitations in claim 49 have been met in claim 12 lack of inventive step.

Regarding claim 50, the limitations in claim 50 have been met in claim 13 lack of inventive step.

Claims 8, 9, 11, 15, 16, 18, 19, 30, 33, 34, 39, 42, 43, 48, 51, 52 lacks an inventive step under PCT Article 33(3) as being obvious over Wu in view of Rao in further view of Hendricks in further view of Graves (US Patent # 5,410,344).

Regarding claim 8, as disclosed in claim 1 lack of inventive step, Wu discloses the programs in the scheduled are scheduled based on the rankings of demand from the user.

Neither Wu, Rao, nor Hendricks discloses the portion of the ratings comprising rating inputs by users of the client system indicating a level of desirability. Graves discloses the user uses a remote control to indicate the desirability of a program (column 6, line 53-column 7, line 4; figure 5).

Regarding claim 9, as disclosed in claim 1 lack of inventive step, Wu discloses the programs in the scheduled are scheduled based on the rankings of demand from the user.

Neither Wu, Rao, nor Hendricks discloses the portion of ratings data is automatically generated by the client system based on data stored on the client system that are indicative of content preferences.

Graves discloses the programs are selected with the highest interest to the viewer based on the viewer's personal preferences regarding program attributes using neural networks, which is a computer program operating on computer equipment (column 7, line

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Regarding claim 26, the limitations in claim 26 have been met in claim 1 lack of inventive step. Wu discloses the additional limitation of a computer 120 (processor with circuitry), a data link 118 (communications interface coupled to the processor to receive data from clients, page 5, lines 23-26), and an audio/video source 124 (storage device coupled to processor) (figure 1).

Regarding claim 27, the limitations in claim 27 have been met in claims 2, 3 lack of inventive step. Wu discloses after the highest-ranking segments are shown first and they finish, the next highest-ranking segments are shown and so on (page 13, lines 1-4). Wu discloses the requests are held for a period of time then the requested are ranked based on demand; after the period of time for holding and the deployment of the streams new requests will be received (page 12, lines 12-32), which meets the limitation on resetting the piece of content cannot be selected again for a subsequent broadcast until the new requests corresponding to the content are received.

Regarding claim 35, the limitations in claim 35 have been met in claim 1 lack of inventive step. Wu discloses the programs on the computer 122 for scheduling the on demand stream (page 15, lines 2-13), which meets the additional limitation of a machine readable medium.

Regarding claim 36, the limitations in claim 36 have been met in claim 27 lack of inventive step.

Regarding claim 44, the limitations in claim 44 have been met in claim 1 lack of inventive step. Wu discloses the stream source 112 is a headend (page 4, lines 20-24). Wu discloses a stream source 112 (broadcast server), an audio/video source 124 (database server linked to broadcast server) (figure 1). The set top box (one of plurality of clients) are linked to the database server via data channel 118 (second communications link) (figure 1). The stream source broadcasts streams to the set top box (one of plurality of clients) via a first communications link (page 44, lines 7-10, figure 1).

Regarding claim 45, the limitations in claim 45 have been met in claim 27 lack of inventive step.

Regarding claim 53, Wu discloses the stream source could be a satellite transmission system (page 4, lines 22-24), which meets the limitation on a first communications link. Wu discloses the data channel can be a coax cable, telephone return, or any other type of connection (page 4, lines 7-16), which meets the limitation on a telecommunications network being a second communications link.

Regarding claim 55, Wu discloses the stream source could be a satellite transmission system (page 4, lines 22-24), which meets the limitation on a first communications link. Wu discloses the data channel can be a coax cable, telephone return, or any other type of connection (page 4, lines 7-16). Wu discloses the data channel 118 that connects to the computer can use a cable modem or telephone connection (page 6, lines 23-32), which meets the limitation on a computer network being a second communications link.

Claims 4, 28, 37, 46 lacks an inventive step under PCT Article 33(3) as being obvious over Wu in view of Rao in further view of Browning (US Patent # 6,006,247).

Regarding claim 4, Wu discloses the requests are held for varying periods until a time and the requests are ranked. Wu fails to disclose ranking and recalculating after more requests are received. Browning discloses the data processor includes a global queue and the threads have a priority order for execution and it is determined whether an exception of a thread should interrupt the current thread and execute the exception (column 2, line 46-column 3, line 7), which meets the limitation on recalculating upon receiving feedback data asynchronously.

Regarding claim 28, the limitations in claim 28 have been met in claim 4 lack of inventive step.

Regarding claim 37, the limitations in claim 37 have been met in claim 4 lack of inventive step.

Regarding claim 46, the limitations in claim 46 have been met in claim 28 lack of inventive step.

Claims 5, 6, 10, 12, 13, 17, 21-25, 31, 32, 40, 41, 49, 50 lacks an inventive step under PCT Article 33(3) as being obvious over Wu in view of Rao in further view of Hendricks (US Patent # 5,600,573).

Regarding claim 5, Wu discloses the users may pay to move their requests up in the rankings (page 13, line 31-page 14, line 2). Wu fails to disclose the same embodiment.

Hendricks discloses the market research component receives viewer requests for programs, program ratings, and the like to assist scheduler in formulating the program lineup based on viewer requests for programs (column 10, lines 42-52), which meets the limitation on adjusting the schedule in consideration of business objectives.

Regarding claim 6, Wu discloses ranking data for on demand streams based on the number of requests made for a segment (page 12, lines 12-31), which meets the limitation on rating data corresponding to pieces of content in the schedule and ordered based on corresponding rating values.

Neither Wu nor Rao discloses the client feedback data comprising ratings data. Hendricks discloses the market research component receives and analyzes program ratings and the like to assist the scheduler to formulate a program lineup (column 10, lines 42-52); the combination of user demand and the ratings read on client demand feedback. Hendricks discloses the networks analyze the ratings for the television shows and determines an appropriate schedule or program lineup to gain market share (column 2, lines 30-37).

Regarding claim 10, Wu discloses the paid on demand segments could be provided in favor of free on demand segments to maximize revenue but not the further comprising (which is the same embodiment). Hendricks discloses the viewer requests and the ratings determine the program lineup that plays the programs that will be shown to the viewer including advertisements selected (column 10, lines 42-55). Hendricks discloses the program lineup is determined to gain market share revenues (column 2, lines 30-37).

Regarding claim 12, Rao discloses the digital broadcast carries both program data and electronic program guide data (meta-data) and is delivered to the subscriber (column 9, lines 40-58), which meets the limitation on meta data broadcasted a continuous

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(To be used when the space in any of the preceding boxes is not sufficient)

55-column 8, line 4), which meets the limitation on automatically generated by the client system based on stored data that indicate content preferences of the user. Graves discloses the neural network used to determine the program grade (column 8, lines 5-31).

Regarding claim 11, as disclosed in claim 1 lack of inventive step, Wu discloses the programs in the scheduled are scheduled based on the rankings of demand from the user.

Neither Wu, Rao, nor Hendricks discloses portions comprising ratings provided by users and the other portion automatically generated by the client system based on stored data. Graves discloses the viewer enters program preferences regarding programs and program attributes and has three modes of entering personal preferences for each program (column 6, line 53-column 7, line 20, figures 5, 6). Graves discloses the process acquires viewer personal preference in the personal preference file 32a (column 7, lines 37-43), which meets the limitation on a first portion of ratings provided by a user.

Graves discloses the programs are selected with the highest interest to the viewer based on the viewer's personal preferences regarding program attributes using neural networks, which is a computer program operating on computer equipment (column 7, line 55-column 8, line 4). Graves discloses the neural network used to determine the program grade (column 8, lines 5-31). Graves discloses neural networks learn from experience and try to obtain a close grade by estimating a grade and comparing it with the viewer grade and adjusted until the grade of the neural network matches or closely approximates the grade generated by the viewer (column 9, lines 4-31), which meets the limitation on automatically generated by the clients system based on stored data that indicate content preferences of the user.

Regarding claim 15, as disclosed in claim 1 lack of inventive step, Wu discloses the rankings of more than one program in the schedule queue based on user demand.

Neither Wu, Rao, nor Hendricks discloses the user ranking at least two pieces of content indicating the desirability of the content. Graves discloses the programs that are most significant to the user are stored (column 6, lines 32-49). Graves discloses the viewer enters program preferences regarding programs and program attributes and the user ranks programs (column 6, line 53-column 7, line 20, figures 5, 6). Graves discloses the process acquires viewer personal preference in the personal preference file 32a (column 7, lines 37-43), which meets the limitation on ranking at least two pieces of content wherein the ranking indicates a level of desirability of the content.

Regarding claim 16, as disclosed in claim 1 lack of inventive step, Wu discloses the programs are scheduled for transmitting the highest requested program first.

Neither Wu, Rao, nor Hendricks discloses the program rankings generated automatically by the clients system that indicate the content preferences of the user. Graves discloses the programs are selected with the highest interest to the viewer based on the viewer's personal preferences regarding program attributes using neural networks, which is a computer program operating on computer equipment (column 7, line 55-column 8, line 4). Graves discloses the neural network used to determine the program grade (column 8, lines 5-31). Graves discloses neural networks learn from experience and try to obtain a close grade by estimating a grade and comparing it with the viewer grade and adjusted until the grade of the neural network matches or closely approximates the grade generated by the viewer (column 9, lines 4-31), which meets the limitation on automatically generated by the clients system based on stored data that indicate content preferences of the user.

Regarding claim 18, as disclosed in claim 1 lack of inventive step, Wu discloses the programs in the scheduled are scheduled based on the rankings of demand from the user. Wu discloses the data can be sent and received over data channel (page 5, lines 23-26), which meets the limitation on client feedback.

Neither Wu, Rao, nor Hendricks discloses portions comprising ratings provided by users and the other portion automatically generated by the client system based on stored data. Graves discloses the viewer enters program preferences regarding programs and program attributes and has three modes of entering personal preferences for each program (column 6, line 53-column 7, line 20, figures 5, 6). Graves discloses the process acquires viewer personal preference in the personal preference file 32a (column 7, lines 37-43), which meets the limitation on a first portion of ratings provided by a user.

Graves discloses the programs are selected with the highest interest to the viewer based on the viewer's personal preferences regarding program attributes using neural networks, which is a computer program operating on computer equipment (column 7, line 55-column 8, line 4). Graves discloses the neural network used to determine the program grade (column 8, lines 5-31). Graves discloses neural networks learn from experience and try to obtain a close grade by estimating a grade and comparing it with the viewer grade and adjusted until the grade of the neural network matches or closely approximates the grade generated by the viewer (column 9, lines 4-31), which meets the limitation on automatically generated by the clients system based on stored data that indicate content preferences of the user.

Regarding claim 19, Rao discloses the programming and the electronic program guide data (meta-data) is transmitted down to the user in a digital bit stream (column 9, lines 40-58), which meets the limitation on transmitting pieces of content considered for upcoming broadcast is broadcast as a continuous stream that is repeated. Rao discloses the user uses the programming guide and selects video programming (column 15, line 62-column 16, line 8); the programming guide necessitates including names of programs, times, etc., which meets the limitation on content descriptor.

Wu discloses a ranked list of programs according to demand of the user (page 12, lines 19-32).

Hendricks discloses viewer demands and ratings are sent back to the CAP 316, which is part of the scheduler (column 10, lines 39-67).

Neither Wu, Rao, nor Hendricks discloses the client feedback data includes a ranked list expressing relative interest in each piece of the content. Graves discloses the user ranks the programs to set the personal preference file (column 6, line 53-column 7, line 20, figure 6).

Regarding claim 30, the limitations in claim 30 have been met in claim 11 lack of inventive step.

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Regarding claim 33, the limitations in claim 33 have been met in claim 18 lack of inventive step.
Regarding claim 34, the limitations in claim 34 have been met in claim 19 lack of inventive step.
Regarding claim 39, the limitations in claim 39 have been met in claim 11 lack of inventive step.
Regarding claim 42, the limitations in claim 42 have been met in claim 18 lack of inventive step.
Regarding claim 43, the limitations in claim 43 have been met in claim 19 lack of inventive step.
Regarding claim 48, the limitations in claim 48 have been met in claim 30 lack of inventive step.
Regarding claim 51, the limitations in claim 51 have been met in claim 18 lack of inventive step.
Regarding claim 52, the limitations in claim 52 have been met in claim 19 lack of inventive step.

Claims 7, 14 lacks an inventive step under PCT Article 33(3) as being obvious over Wu in view of Rao in further view of Hendricks in further view of Graves.

Regarding claim 7, Hendricks discloses the ratings are fed back to the market research component where the CAP uses the information to determine a program lineup (column 10, lines 39-67).

Neither Wu, Rao, nor Hendricks discloses calculating an average rating and the highest rated piece of content is the highest average. Graves discloses the well-known neural network calculates a weighted summation (column 7, line 55-column 8, line 31). Wu, Rao, Hendricks, and Graves lacks an inventive step to averages.

Regarding claim 14, Hendricks discloses the ratings are fed back to the market research component where the CAP uses the information to determine a program lineup (column 10, lines 39-67).

Neither Wu, Rao, nor Hendricks discloses calculating an average rating and the highest rated piece of content is the highest average. Graves discloses the well-known neural network calculates a weighted summation (column 7, line 55-column 8, line 31). Wu, Rao, Hendricks, and Graves lacks an inventive step to averages.

Claims 54, 56 lacks an inventive step under PCT Article 33(3) as being obvious over Wu in view of Rao.

Regarding claim 54, 56, Wu discloses the signal from the stream source 112 could be any type of connection and the data channel can be a coax cable, telephone return, or any other type of connection (page 4, lines 7-16). Neither Wu nor Rao discloses each being a bi-directional connection or a computer network. Wu and Rao lack the inventive step to bi-directional connection. Wu and Rao lack the inventive step of computer network connection.

-----NEW CITATIONS-----

US 5,600,573 A (HENDRICKS et al.) 04 February 1997, all
US 5,410,344 A (GRAVES et al.) 25 April 1995, all
US 5,940,738 A (RAO) 17 August 1999, all
US 6,006,247 A (BROWNING) 21 December 1999, all